

by

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0.1: In Lithuanian, and in Baltic in general,<sup>2</sup> two overt preterit markers can be found:  $*\bar{a}$ - > Li. -o- and  $(*)\bar{e}$ -. Two subvarieties of the latter suffix are frequently distinguished, which will in the following be referred to as  $\bar{e}_1$  and  $\bar{e}_2$ . The suffix  $\bar{e}_1$  occurs in the preterit of verbs whose stem ends in -y- in the infinitive and  $*\bar{a}$ - in the present, and whose preterit (active) participle shows palatalization of the presuffixal consonant; cf. inf. laik-y-ti 'hold', pres. 3rd pers. laik-o, pret. laik- $\bar{e}$ , pret. pple. laikius- (= [laik'us-]). The suffix  $\bar{e}_2$  is found in the preterit of all other verbs which have  $\bar{e}$ -preterits, notably in the preterit of most  $*\bar{a}$ -ja-verbs; cf. peik-ti 'reproach', peik-ia, peik- $\bar{e}$ , peik-us- and deg-ti 'burn', deg-a, deg- $\bar{e}$ , deg-us-.

0.2: Concerning the historical origin of these two types of  $\bar{e}$ -preterits, numerous different hypotheses have been advanced. Among these hypotheses, three major views can be discerned.

0.2.1: According to one view, dating back to Schleicher (1856:224-5) and continued by Kurschat (1876:280), Vaillant (1942:156-7),<sup>3</sup> Schmalstieg (1960:265-6),<sup>3, 4</sup> and Schmid (1963:19-22),<sup>3</sup> all  $\bar{e}$ -preterits, both those in  $-\bar{e}_1$ - and those in  $-\bar{e}_2$ -, are a Baltic innovation, ultimately deriving from earlier formations containing the preterit marker  $*\bar{a}$ - overtly found in the other Baltic preterits (other than that of the verb 'to be' where such forms as OLi. and dial. Li. bit(i) can be found).

0.2.2: A second view, first advocated by Wiedemann (1891:181-7) and found also in Pedersen 1921 and 1926:11-2, as well as in Stang 1966:382 and 387-8, overlaps with the preceding view by considering the forms with suffix  $\bar{e}_1$  to be derived from earlier formations in  $-\bar{a}$ -. However, as far

as the suffix  $\bar{e}_2$  is concerned, this view maintains that it is inherited from Proto-Indo-European.

0.2.3: The third major view implicitly or explicitly rejects the hypothesis that one or both of the two  $\bar{e}$ -preterits can be derived from earlier  $\bar{a}$ -preterit formations and considers all  $\bar{e}$ -preterits, both those in  $-\bar{e}_1-$  and those in  $-\bar{e}_2-$ , to be inherited from Proto-Indo-European. This view has been held by such linguists as Endzelīns (1923:666 and 1971:234), Sandbach (1930:81-2), Stang (1942:189), and Kōlln (1969:31-2).<sup>5</sup>

Also Kazlauskas (1968:360) rejected the view that the  $\bar{e}$ -preterit can be derived from earlier preterit formations in  $*-\bar{a}-$ . Unlike the other linguists of this group, however, he seems to have been of the opinion (ibid:348) that the ending of the  $\bar{e}$ -preterit (as well as that of the  $\bar{a}$ -preterit) constitutes an inner-Baltic innovation, deriving from earlier uninflected, noun-like present forms in  $-\bar{e}$  (and  $-\bar{a}$ ). When these forms later 'acquired' personal (present) endings (as in auklē → auklē-ja), the older, noncharacterized forms became specialized as preterits.

0.3: Rather than discussing the relative merits of all of these three major views and of their manifold subvarieties, I will in this paper narrowly limit myself to investigating the pros and cons of what appears to me the most fruitful hypothesis, namely the first major view (and the second major view in so far as it overlaps with the first). In so doing I hope to demonstrate that, with modifications, elaborations, and ancillary hypotheses, many of which were considered by previous investigators without however reaching what I feel to be the correct conclusions, this view can be shown to be plausible and thus at least to be a viable alternative to the other major view(s).

1.1: Before entering into a discussion of the first major view, however, it will be useful to have a brief look at the synchronic nature of the data under discussion.

1.2: With only minor exceptions which would not affect the thrust of the arguments of this paper, the Standard Lithuanian distribution of the two preterit suffixes, *\*-ā-* and *-ē-*, is as indicated in table 1.

TABLE 1

	INFINITIVE	PRESENT	PRETERIT	PRETERIT PARTICIPLE
(a)	-y-	<i>*-ā-</i>	<i>-ē-</i>	<i>*-jus-</i>
(b)	-Ø-	<i>*-ja-</i>	<i>-ē-</i>	<i>-Ø-us-</i>
(c)	-Ø-	-a-	<i>-ē-</i>	<i>-Ø-us-</i>
	-Ø-	-a-	<i>*-ā-</i>	<i>-Ø-us-</i>
(d)	-Ø-	-N ... a-	<i>*-ā-</i>	<i>-Ø-us-</i>
	-Ø-	-sta-	<i>*-ā-</i>	<i>-Ø-us-</i>
(e)	-V-	<i>-V-j-a-</i>	<i>*-V-j-ā-</i>	<i>-V-j-us-</i>

1.2.1: In class (a), exemplified by verbs like laik-y-ti 'hold', laik-o, laik-ē, laikius-, the preterit suffix is *-ē-* without any exceptions. Both transitive and intransitive verbs occur in this class.

1.2.2: Also in the almost exclusively transitive verbs of class (b), such as peik-ti 'reproach', peik-ia, peik-ē, peik-us-, the preterit suffix regularly is *-ē-*, only four or five exceptions with *\*-ā-* being found. This class of verbs is, if not very productive, at least very large.

1.2.3: In classes (d) and (e), the *ā*-preterit is regularly found.

In type (e), exemplified by verbs like pasak-o-ti 'tell stories', pasak-o-j-a, pasak-o-j-o, pasak-o-j-us-, the *ā*-suffix is the exclusive preterit marker. Verbs of this type may be either transitive or intransitive, depending to a certain degree on the precise long-vowel stem-forming suffix chosen. Note that the *-j-* found between the long-vowel suffix and the markers of the present, preterit, and preterit participle is, from the synchronic point of view, best regarded to function as a hiatus breaker. For there is in Lithuanian a general con-

spiracy of various different rules which leads to the elimination of vowel clusters consisting of more than two morae; cf. my other paper in this volume.

In the verbs of type (d), such as ak-ti 'become blind', a-n-k-a (with nasal infix), ak-o, ak-us- and dyg-ti 'sprout', dyg-sta, dyg-o, dyg-us-,<sup>6</sup> the ā-preterit occurs with virtually no exceptions. The verbs of this class are invariably inchoative-intransitive.

1.2.4: It is only in the verbs of class (c), such as deg-ti 'burn', deg-a, deg-ē, deg-us- and lik-ti 'leave', liek-a, lik-o, lik-us-, that both ā- and ē-preterit occur quite freely, although the occurrence of one or the other type of preterit formation is largely predictable in terms of root shape and/or in terms of whether the root ablauts and what kind of ablaut it undergoes. The regular distribution of endings is as indicated in table 2.

No exceptions seem to occur in subclasses (ii), (iii), (v), and (vii) - (x).<sup>7</sup> Exceptions are rare in classes (i), where isolated ē-preterits like mus-ē 'defeated' are found, and (vi), where mezg-ē 'tied' and rezg-ē 'knitted' are the only exceptions. Note that because of their close semantic similarity and because of the fact that they rhyme, the two exceptions to subclass (vi) can be considered to be really only a single exception.

It is only in subclass (iv), which is extremely limited in number, that the selection of the preterit marker is formally indeterminate. Of the four verbs which belong to this class, namely aug-ti 'grow (itr.)', sēs-ti (from /sēd-ti/) 'sit down', ēs-ti (from /ēd-ti/) 'eat (of animals)', and pul-ti (from /puol-ti/) 'fall' and 'überfallen, attack', two have ā-preterits (aug-o and sēd-o) and the other two have ē-preterits (ēd-ē and puol-ē).

1.2.5: Note that while in the majority of subclasses of class (c), transitive verbs are preponderant, there is still in each of these subclasses a sufficient number of intransitive verbs to preclude labeling class (c) a class of transitive verbs.

What is interesting in respect to the transitivity : intransitivity distinction is the fact that in the small subclass (iv), the occurrence of ā- or ē-preterit can be considered linked with the (potential) transitivity of the verbs: The two verbs which are always intransitive (aug-ti and sēs-ti) take the ending \*-ā-, while the two verbs which are (or can be) transitive (ēs-ti and pul-ti) take the ending -ē-. The significance of this fact will become apparent later on when the evidence of Old Lithuanian, of the Lithuanian dialects, and of (the) Latvian (dialects) is taken into consideration.

TABLE 2

	ROOT SHAPE	ABLAUT	PRETERIT
(i)	$\left\{ \begin{array}{c} \text{ĩ} \\ \text{ũ} \end{array} \right\} + \left\{ \begin{array}{c} \text{RC} \\ \text{C} \end{array} \right\}$	---	<u>*-ā-</u> ; cf. <u>lip-o</u> 'climbed'
(ii)	$\left\{ \begin{array}{c} \text{ē} \\ \text{ā} \end{array} \right\} + \text{C}$	---	<u>-ē-</u> ; cf. <u>deg-ē</u> 'burned'
(iii)	<u>ā</u> + R	---	<u>-ē-</u> ; cf. <u>bar-ē</u> 'scolded'
(iv)	$\left\{ \begin{array}{c} \text{V̄} \\ \text{VV} \end{array} \right\} + \left\{ \begin{array}{c} \text{C} \\ \text{R} \end{array} \right\}$	---	indeterminate; cf. <u>aug-o</u> 'grew' vs. <u>ēd-ē</u> 'ate'
(v)	Vnd	---	<u>*-ā-</u> ; cf. <u>kand-o</u> 'bit'
(vi)	VCC	---	<u>*-ā-</u> ; cf. <u>čiausk-o</u> 'stuttered'
(vii)	VR	V + V̄	<u>-ē-</u> ; cf. <u>myn-ē</u> 'stepped', pres. <u>min-a</u>
(viii)	ē(R)C	ē → ∅	<u>*-ā-</u> ; cf. <u>lik-o</u> 'left', pres. <u>liek-a</u>
(ix)	ēR	ē → i	<u>-ē-</u> ; cf. <u>gim-ē</u> 'was born', pres. <u>gem-a</u>
(x)	ĩ	ĩ → ē	<u>-ē-</u> ; cf. <u>ēm-ē</u> 'took', pres. <u>im-a</u>



1.3: Thus, verbs which are clearly phonologically marked for transitivity (class (b)) or intransitivity (class (d)) have, with but four or five exceptions on either side, completely predictable preterits. The transitive type has the suffix -ē-; the intransitive type, the suffix \*-ā-.

1.4: In addition, there is in these verbs a formal correlation between the present and preterit suffixes: The nonpalatal present suffix -ā- corresponds to the nonpalatal preterit suffix \*-ā-, while the palatal present suffix \*-ja- corresponds to the palatal preterit marker -ē-. (This correlation, of course, breaks down in the verbs of class (c), where both palatal ē-preterit and nonpalatal ā-preterit can be found corresponding to the nonpalatal present suffix -ā-.) A similar formal relation seems to exist in class (a), where the palatal infinitive stem marker -y- corresponds to the palatal preterit marker -ē-.

1.5: Another generalization can be made about the verbs which have a long-vowel derivational suffix in the infinitive (classes (a) and (e)). For also here the selection of the preterit marker is predictable. Verbs of class (a), with the infinitive marker -y- and the present suffix \*-ā- > -o-, have ē-preterits; all other verbs of this type have ā-preterits.

However, while in class (e) the preterit marker \*-ā- is added to the infinitive suffix, with an intervening -j- to bridge the hiatus between the two vocalic suffixes, in class (a) the preterit marker -ē- seems to replace the infinitive suffix -y-. Notice that no other verbal category with characterized infinitive shows such a pattern of suffix replacement, or an ē-preterit for that matter. Class (a) thus is quite aberrant in this respect.

Class (a) is equally aberrant in the formation of the preterit participle. While all the other verbs look like they drop (without trace) the suffix of the preterit (whether this be \*-ā- or -ē-) before the suffix-initial vowel of the preterit marker -us-, class (a) verbs do not seem to lose their preterit suffix without trace. For a reflex of the palatal quality of the preterit suffix -ē- seems to appear in the

palatalization of the root-final consonant preceding the preterit marker -us-; cf. class (a) laik-ē : laikius- vs. (b) peik-ē : peik-us-, (c) deg-ē : deg-us-.

2.1: It is the correlations between the palatal present or infinitive suffixes (\*-ja- and -y-) and the palatal preterit suffix -ē- noted in 1.4 above which formed the basis for the hypotheses that all ē-preterits can be derived from earlier formations characterized by the preterit marker \*-ā-.

2.1.1: Thus Schleicher (1856:66-7, 157, 224-5) proposed to derive the ē-suffix of class (a) preterits from an earlier combination of the infinitive marker -y-<sup>8</sup> and the preterit marker -ā-,<sup>9</sup> which developed into an intermediate -jā-; similarly he proposed to derive the ē-suffix of (b) and (c) preterits from earlier -jā- whose j he apparently identified with the -j- of the ja-presents to which -ē- regularly corresponds in the preterit; cf. 1.2.2 above. Both of these jā-suffixes then in his opinion contracted to -ē-.

Schleicher no doubt felt justified in this assumption by the fact that a similar process of contraction of \*-jā- to -ē- can in his view be found in nouns of the type žemē 'earth', where the older \*-j- clearly shows up in the palatalization of the root-final consonant in the genitive plural žemių and where dialectal vacillation in such forms as the genitive singular between noncontracted -ios (< \*-jā-) and -ēs indicates that \*-jā- does indeed (optionally) contract to -ē- (1856:67, 107, 184-6).

2.1.2: In his view Schleicher was closely followed by Kurschat (1876: 34, 172-3, 280-1). However, being a native speaker of the language, Kurschat also adduced evidence which at the time, to be sure, was not yet felt to be of any particular significance, but which took on crucial importance once the concept of the regularity of sound change had become generally accepted.

For, as Kurschat pointed out, beside contracted nominal forms like žemē, Lithuanian also offers forms which show no contraction throughout

the paradigm, such as valdžia, G sg. valdžios 'rule, power'. In addition, Kurschat correctly observed that while the preterit participle of class (a) verbs shows palatalization of the root-final consonant, the preterit participles of class (b) and (c) verbs do not; cf. 1.5 above.

2.2.1: Schleicher's (and Kurschat's) view was first attacked by Wiedemann (1891:181-3).

According to Wiedemann, it is difficult to see how the ē-preterit of class (c) verbs can be derived from an earlier preterit in \*-jā-, with the -j- of the present suffix \*-ja-, since the present suffix of class (c) verbs is precisely not \*-ja-, but rather -a-.

In addition, Wiedemann argued, even if one were to accept the hypothesis that all ē-preterits can be derived from earlier forms in \*-jā-, why is the preterit of class (b) presents like bliau-ja 'cry' of the shape bliov-ē, rather than the expected bliau-jo\*, with the regular diphthongal root alternant before j (cf. the form of the present) and with the regular lack of contraction of \*-jā- after vocalic segments (cf. sē-ja < \*-jā 'sowing')?

Further, following Johannes Schmidt,<sup>10</sup> Wiedemann argued that the nominal forms in contracted -ē- cannot be considered derived from the attested uncontracted forms in \*-jā- (> -io- or -ia- depending on the environment), but that they are to be derived from earlier, contrasting forms in \*-ijā-, with PIE \*-iy-, rather than simple \*-y-. And while it would still be entirely possible, from a purely phonological point of view, to derive the ē-preterit of class (b) and (c) verbs<sup>11</sup> from older formations in \*-ijā-, there would in his opinion be no morphologically satisfactory way of explaining the origin of the -ij- of this suffix.

2.2.2: Although Wiedemann's arguments concerning the ē-preterits of the type bliov-ē are not necessarily cogent, since it can be argued that the ē-preterit of these forms may owe its existence to secondary extension of the pattern found in all the other ja-presents from simple roots<sup>12</sup> and that the devocalization of y to v would be automatic in the resulting environment between (surface) vowels, his other two arguments



are, on the face of it, well reasoned and convincing.

It is certainly true that it simply won't do to assume, without any ancillary hypotheses, that the ē-preterits of class (c) verbs can be derived from earlier formations in \*-jā-, considering that the class (c) verbs do not show a j in their present suffix which would motivate the occurrence of a j in their original preterit suffix, and considering that, as Wiedemann failed to point out, the equally j-less a-presents of class (d) regularly correspond to j-less ā-preterits.

Also the claim that the contracted ē-forms reflect earlier forms in \*-ijā-, rather than simple \*-jā-, would seem to be attractive, if only because it would account for the difference between contracted and non-contracted forms without violating the principle of the regularity of sound change.<sup>12a</sup> It should, however, be noted that unfortunately Wiedemann failed to specify what, if anything, is the relationship between the two original suffixes \*-yā- and \*-iyā- and how the dialectal vacillations between contracted and uncontracted forms which had been observed by Schleicher can be explained.

2.3.1: The first (published) attempt to account for the latter difficulties with Wiedemann's view seems to have been that of Sommer (1914).

In his admirable, thoroughly documented study of the nominal evidence,<sup>13</sup> Sommer showed that there is indeed a historical relationship between the suffixes \*-jā- (> -io- or -ia-) and \*-ijā- (> -ē-). As Sommer pointed out, not only do we find the dialectal vacillations observed by Schleicher (and similar intraparadigmatic alternations, such as N sg. did-ē 'big', G sg. didžios in Kurschat's dialect), more importantly, we find the suffixes \*-jā- and -ē- with identical function in denominative and deverbative nominal derivation. Compare m. diev-as 'god' : f. deiv-ē (diev-ē), stumbr-as 'bison' : stumbr-ē, bendr-as 'companion' : bendr-ē vs. svot-as 'father of the bride' : svoč-ia; similarly kūl-ē 'time for threshing' (from kul-ti 'thresh'), or-ē 'time for ploughing' (from ar-ti 'plough') vs. sē-ja 'time for sowing' (from sē-ti 'sow'). As Sommer correctly observed, this parallelism not only cannot be due to chance but must reflect an original identity in formation. It also would

be impossible to find any other Proto-Indo-European source for the feminizing suffix  $-\bar{e}$  for which independent, non-Baltic evidence could be found, but the suffix  $*-\bar{i}/y\bar{a}-$  (10-11).

The usual practice of identifying the Baltic  $\bar{e}$ -stem nouns with the Latin fifth declension must be rejected for three reasons. (1) The two types of inflection are functionally virtually incommensurate. (2) There are no convincing lexical equations between the two classes: Of the two equations usually considered probative, that of Li.  $\bar{z}vak-\bar{e}$  'candle' with Lat.  $faciēs$  'face' cannot be maintained; and the equation Li.  $lap-\bar{e}$  'fox' : Lat.  $volpēs$  (id.) is doubtful.<sup>14</sup> (3) The circumflex intonation of the Lithuanian  $\bar{e}$ -suffix (as in  $mus-\bar{e}$  'fly' beside dialectal  $musiā$  with acute > grave intonation) can hardly be accounted for in any other fashion than by contraction (of an earlier  $-iā-$  to  $-\bar{e}-$ ) (13-4).

As for the conditions under which the original suffix  $*-y\bar{a}-$  became  $*-j\bar{a}-$  beside the (disyllabic)  $*-i\bar{a}-$  which contracted to  $-\bar{e}-$ , Sommer believed that  $j$  was vocalized in word-final syllables in the environment between obstruent consonant and vowel; elsewhere, i.e. in nonfinal syllables and in final syllables in the environment between vowel or diphthong (including the diphthongs of vowel plus nonglide resonant) and vowel,  $j$  remained consonantal. Apparent exceptions, such as  $jūrēs$  'sea' beside  $marios$  (id.), where both the contracted, originally vocalized and the uncontracted, originally nonvocalized form of the suffix is found, can in Sommer's view easily be explained as owing their existence to leveling.

2.3.2: While Sommer's observations generally are no doubt cogent and correct, his hypothesis concerning the split of original  $*-y\bar{a}-$  into  $*-j\bar{a}-$  and  $*-i\bar{a}-$  (>  $-\bar{e}-$ ) cannot be considered satisfactory.

For while it is certainly true that the vocalic shape of the suffix (i.e.  $*-i\bar{a}-$ ) never appears after roots ending in a vowel, thus (virtually) guaranteeing that the vocalic alternant never occurred in that environment, the case is by no means as clear as far as the environment after diphthongs (including diphthongs of vowel plus nonglide resonant) and after consonants is concerned. In all of these environments after

Proto-Indo-European resonant or consonant, both the contracted and the uncontracted forms of the suffix can be found. Thus one finds not only G sg. didēs 'big' beside didžios, but also Sommer's N pl. jūrēs 'sea' beside marios (id.), as well as forms like šlovė 'fame' beside sauja 'handful'.

That is, in environments other than after (single) vowel, both contracted and uncontracted forms are equally found. Sommer's claim that in some of these environments, that is after obstruents, the regular original alternant was *\*-iā-*, and that elsewhere it was *\*-jā-* thus must be considered aprioristic and not supported by the evidence.

A more satisfactory explanation of the Lithuanian (and general Baltic) facts would seem to lie along the lines of the hypothesis most recently proposed in Nagy 1970:49-100.

The main thrust of Nagy's arguments can be summarized as follows: Proto-Indo-European had a rule known as Sievers-Edgerton's Law by which a resonant, especially a glide resonant, was replaced by a sequence of homorganic vocalic and nonvocalic resonants in the environment after a heavy syllable and before a vowel:

$$R \rightarrow RR / \left\{ \begin{array}{l} \bar{V}R/C(C) \\ \bar{V}R/CC \end{array} \right\} \text{ — } V$$

This rule would thus provide for suffixal alternations of the type *\*-yā-* after light syllable : *\*-iyā-* after heavy syllable.

While this alternation was at first predictable and automatic, the emergence of an *\*-iyā-* suffix of independent, presumably laryngeal origin (i.e. *\*-iHā-* > *\*-iyā-*), which could occur both after heavy and after light syllable, made the Sievers-Edgerton's Law alternation nonautomatic and opaque. The alternation became even more opaque by the subsequent contraction of *\*-iyā-* to Baltic *-ē-*.

The door was thus open for generalizations of either of the two alternating suffixes into environments where they were not originally motivated. (The only environment which was excepted from such levelings was the environment after vowel, where because of the general tendency of Lithuanian (and Baltic in general) to avoid vowel clusters, the alternant *-ē-* could not be introduced.) And, as examples like Standard Li. giria

'forest' : dial. Li. girē indicate, in the nouns these generalizations could differ not only from one lexical item to another, but also from one dialect to another.

2.4: It was apparently because of Sommer's hypothesis, which at least seemed to take care of the objection that Schleicher's and Kurschat's derivation of the ē-preterit by the contraction of \*-jā- to -ē- (which was optional in the nouns !) violated the maxim that sound laws operate without exceptions, that a few linguists reaffirmed the belief that the Lithuanian ē-preterit can be derived from earlier formations in \*-jā-. Compare on this count Vaillant 1942:156-7 and Schmid 1963:19-22.

However, while these later reaffirmations of Schleicher's and Kurschat's views would, if Sommer's hypothesis could be retained in toto, avoid the objection of violating the principle of the regularity of sound change, they are still open to Wiedemann's first objection, namely that it is difficult to see how the verbs of class (c), with their j-less a-presents, could have wound up with a preterit suffix \*-jā-.

Schmid, to be sure, believed that the existence of Tocharian forms like Toch. B campya 'was able' furnishes evidence for a preterit suffix PIE \*-yā- which is of independent origin and does not need a corresponding (\*-ye/o- >) \*-ja-present to motivate it (1963:21-2). However, it is by no means certain that the Tocharian preterit suffix (\*)-ā- or (\*)-yā- continues a Proto-Indo-European suffix containing an ā-vowel. For not only is the historical phonology of Tocharian still generally too uncertain to use Tocharian forms as the sole, independent evidence in favor of a particular reconstruction; also, as the correspondence of Toch o to the (\*)ā of the other Indo-European languages in Toch. B obl. pokai 'arm' : Gk. Aeol., Dor. pākhus and Toch. B procer 'brother' : Gk. phrātēr etc. shows,<sup>15</sup> there is actually good reason to believe that a Proto-Indo-European ending \*-(y)ā- would have yielded Toch -(y)o-\*, rather than the attested (\*)-(y)ā-.

2.5: A somewhat different revival of the view that the ē-preterit can be derived from original formations in \*-jā- was proposed by Schmalstieg

(1960).

According to Schmalstieg, it was only in the environment between j and i that Proto-Baltic \*ā (< PIE \*ō, \*ā, as well as \*ā before final resonant) became ē. Before this ē, the preceding j was regularly lost at an early time. Subsequently, the following model existed in the language:

D sg. f., sg. 2 pret. -ai : N sg. f., 3rd pers. pret. -ā

(\*-jāi >) -ei : X.

This model then furnished X = -ē.

However, instead of regularizing the inflection of the original \*-jā-formations by following the analogy suggested by the above model, it was in Schmalstieg's view also possible to generalize into the forms in -ei (< \*-jāi) the a-vocalism found in the rest of the paradigm. This would then account for the continued existence of paradigms like that of valdžia 'rule', G sg. valdžios.

As for the ē-preterit of class (c) verbs, where there was no original motivation for a preterit suffix \*-jā-, Schmalstieg suggested that its suffix was secondarily introduced into the transitive verbs of this class from the equally transitive ja-verbs of class (b).

2.6: Schmalstieg's view that the suffix of the class (c) preterits was secondarily introduced into this class and that the motivation for this introduction lay in the fact that the preterit suffix -ē- was reinterpreted as the distinctively transitive preterit marker seems to be a step in the right direction, although one would like to have a more thorough-going discussion and, if possible, documentation of evidence in favor of this view. Interestingly and regrettably enough, it was precisely this essentially acceptable part of his hypothesis which, as indicated in footnote 4 above, Schmalstieg abandoned in subsequent publications.

As for Schmalstieg's phonological and morphological explanation of the origination of the ē-suffixes, however, the extreme rarity of forms in \*-jāi in the paradigms of the feminine ā-stems (where only the dative singular and nominative/accusative dual show this ending) and the verbal



formations with ā-suffix (where only the second singular offers this ending) makes it extremely difficult to believe that the Baltic ē-formations could have arisen on the basis of Schmalstieg's above model.

2.7: The evaluation of the various hypotheses advocating the view that all of the Baltic ē-preterits can be derived from earlier preterit formations in \*-ā- thus has turned out to be largely negative. Three major problems remain concerning this view.

(1) How would the older preterit suffix \*-ij-ā-, presupposed by the attested preterit suffix -ē- (if the latter is indeed of contracted origin), be morphologically motivated, considering that in the presents of class (b) verbs the suffix is \*-j-a-, not \*-ij-a-?

(2) How can the ē-preterit of (some of the) class (c) verbs be accounted for as derived from an earlier preterit suffix \*-ij-ā-, if the corresponding present suffix is \*-a-, not \*-(i)j-a-? It is true, Schmalstieg has suggested that the ē-preterit of class (c) verbs owes its origin to transfer from the class (b) verbs where -ē- was reinterpreted as the distinctively transitive preterit marker. However, as indicated above, the details of this development and, if possible, supporting evidence for it must still be worked out. Especially, it is necessary to account for the fact that in present-day Standard Lithuanian the presence or absence of the preterit marker -ē- in verbs of class (c) is not necessarily tied up with transitivity; cf. trans. lik-o 'left' with ā-preterit, as well as itr. gim-ē 'was born' with ē-preterit and many other such examples.

(3) The discrepancy in the formation of the preterit participle, noted only by Kurschat, where class (a) verbs have root-final palatalization (cf. laikius-) while class (b) and (c) verbs do not (cf. peikus- and degus-) must be satisfactorily accounted for.

3.1: It is interesting to note that much more satisfactory answers to these problems were given by those linguists who advocate the view that only the ē-preterits of class (a) verbs can be derived from earlier formations in \*-ā-.

3.2: Already Wiedemann (1891:197-8) stated that in class (a) verbs, the long -y- of the infinitive stem became -ij- before the preterit marker \*-ā- and that the resulting sequence \*-ij-ā- regularly contracted to -ē-. In the corresponding preterit participle, the parallel sequence \*-ij-us- could not contract, but rather developed to \*-j-us- > -'us-, spelled -ius-, by regular change; cf. the development in the genitive plural of nominal ē--stems where the pre-form \*-ij-y wound up as \*-j-y > -'y, spelled -iy.<sup>16</sup>

Wiedemann's reason for deriving the preterit and preterit participle forms as indicated was that in this way these formations become originally entirely parallel to all the other preterit and preterit participle formations of verbs with a derivational long-vowel suffix in the infinitive:

\*pasak-ā-ti : \*pasak-ā-j-ā : \*pasak-ā-j-us-<sup>17</sup>

\*laik-ī-ti : \*laik-ī-ā : \*laik-ī-us-.

That is, Wiedemann's historical analysis resolves the aberrancy of class (a) verbs (as compared to class (e) verbs) which was noted in 1.5 above.

3.3: Apparently without knowing of Wiedemann's view, Pedersen (1921 and, more accessibly, 1926:11-2) proposed essentially the same hypothesis.

In addition, however, Pedersen offered what he considered positive evidence showing that the ē-preterit of class (b) and (c) verbs must perforce be of different (presumably noncontracted, simple \*-ē-) origin from that of the class (a) verbs:

(1) While the preterit participle of class (a) verbs shows root-final palatalization, that of class (b) and (c) verbs does not.

(2) In compound verbs, i.e. in verbs with lexical prefixes, the ē-preterit of class (a) verbs shows no accent retraction, just as the regular ā-preterit shows no accent retraction; on the other hand, however, the ē-preterit of class (b) and (c) verbs does retract the accent in compound verbs:

laik-ē = līk-o = peik-ē  
But: īś-laik-ē = īś-līk-o ≠ īś-peik-ē.

3.4: Pedersen's view was accepted as essentially plausible by Stang (1966:382).

However, as Stang correctly observed, the accentual argument in favor of an original difference between class (a) and class (b/c) preterits is not very cogent. For the root accentuation in forms like iš-laīk-ē can be considered analogical, modeled on the constant root accentuation of the corresponding presents; cf. pres. laīk-o, iš-laīk-o.

It might be added that also the 'mobile' accentuation of class (b) and (c) ē-preterits corresponds to an essentially mobile accentuation of the corresponding presents, although there are some predictable exceptions to this mobility in the present.<sup>18</sup> That is, also the mobility of class (b/c) compound preterits may be analogical. And, if the predictable exceptions in the corresponding presents are original, the exceptionless mobility of the preterit may simply be due to the general tendency of innovated formations or patterns to be more regular than their models.

3.5: Also the lack of root-final palatalization in the preterit participles of class (b/c) verbs is not necessarily a cogent argument in favor of the view that the ē-preterit of these verbs must be of a substantially different origin from that of the class (a) verbs. For the preterit participle is a perfect participle in origin, while the ā- and ē-preterits, whatever their ultimate source, certainly cannot be derived from the Proto-Indo-European perfect. A priori it is thus quite possible that the stem of the preterit participle may be different in origin from that of the corresponding preterit.

That this is not only an a priori possibility, but indeed a probability, is shown by the common Balto-Slavic difference in stem formation between the preterit and preterit participle of the verb 'to be'; cf. table 3.

Considering that the verb 'to be' generally tends to preserve archaisms and that the synchronically quite aberrant Baltic preterits of the verb 'to be' must be archaisms compared to the regular ā- and ē-preterits found in all the other Baltic verbs,<sup>19</sup> the pattern of table 3 can hardly be anything but an archaism (in Balto-Slavic).<sup>20</sup>

TABLE 3

	INFINITIVE	PRETERIT	PRETERIT PARTICIPLE
OCS	<u>by-ti</u>	<u>bě</u>	<u>by-v-ŭ</u>
OPr.	<u>bou-ti</u>	<u>běi</u>	<u>boŭ-uns</u>
OLatv.	<u>bū-t</u>	<u>bi,j-a</u>	<u>buewis</u> (= <u>bū-v-is</u> )
dial., OLi.	<u>bū-ti</u>	<u>bi-t(i)</u>	<u>buv-us-</u>

In addition, the (archaic) Balto-Slavic evidence of the verb 'to be' indicates that originally there may well have been a greater formal affinity between the infinitive stem and the preterit participle than between the preterit and the preterit participle; cf. table 3.

That is, the difference between the preterit participles of classes (a) and (b/c) can be accounted for by the fact that the infinitive stem of the former class is characterized by the suffix -y-, while the infinitive stem of the latter is uncharacterized:

inf.	<u>*pasak-ā-ti</u>	:	pret. pppl.	<u>*pasak-ā-j-us-</u>
	<u>*laik-ī-ti</u>	:		<u>*laik-ī-us-</u>
But:	<u>*peik-ø-ti</u>	:		<u>*peik-ø-us-</u>

This latter difference, however, is due to the general phenomenon that in the infinitive of thematic formations, both those in \*-ja- and those in -a-, the thematic suffix is dropped; cf. the evidence in table 1.

3.6: It thus turns out that neither of the two arguments offered by Pedersen in favor of the view that the ē-preterit of class (b) and (c) must be different in origin from that of the class (a) verbs can be considered cogent.

If it then should become possible to find satisfactory solutions to the first two problems outlined in 2.7 above,<sup>21</sup> there would be nothing left standing in the way of reaffirming the view that indeed all of the Baltic ē-preterits can be derived from earlier formations in \*-ā-, or rather in \*-i,j-ā-.

It is the purpose of the rest of this paper to furnish those solutions.

4.1: Returning to the discussion in sections 1.2.1-5 and 1.3 of this paper, the following observations seem to hold true.

(1) The characterized formations of classes (a) and (e), which can be both transitive and intransitive, originally formed their preterit invariably with the suffix  $*-\bar{a}-$ ; cf. the discussion in 3.2 above.

(2) In classes (b) and (d), the generalization holds true that, with but four or five exceptions on either side, the transitive (b) verbs invariably have the  $\bar{e}$ -preterit, while the intransitive (d) verbs invariably have the  $\bar{a}$ -preterit.

(3) The class (c) verbs are the only verbs without characterized infinitive stem where the selection of the preterit markers  $*-\bar{a}-$  and  $-\bar{e}-$  does not by and large depend on the transitivity or intransitivity of the verb in question, but rather on the shape or ablaut of the root. Notice, however, that in the small subclass (c.iv) which because of its small membership would a priori be more likely to preserve an archaic pattern than the other, large and relatively productive subclasses, the correlation between intransitivity and  $\bar{a}$ -preterit and (potential) transitivity and  $\bar{e}$ -preterit resurfaces; cf. 1.2.5 above.

4.2: There is thus a definite tendency in Modern Standard Lithuanian for noncharacterized verbs to have  $\bar{e}$ -preterits if they are transitive, and  $\bar{a}$ -preterits if they are intransitive. And the observation made at the end of point (3) of the preceding section would seem to suggest that this tendency is a rather ancient one.

4.3: This view seems to be confirmed if the evidence of Old Lithuanian, dialectal Lithuanian, and (dialectal and Old) Latvian is taken into consideration.

As Endzelīns (1910) has shown, there is a considerable amount of evidence in the East Baltic dialects outside of Modern Standard Lithuanian which indicates that the tendency for transitive verbs to have  $\bar{e}$ -preterits and for intransitive verbs to have  $\bar{a}$ -preterits once was considerably stronger than in present-day Standard Lithuanian. Thus, where Modern Standard Lithuanian has the pattern inf. deg-ti 'burn (tr. and



itr.)', pres. deg-a, pret. deg-ē, Old Lithuanian shows the ā-preterit form deg-o with intransitive meaning, and Latvian dialects show a clear opposition between the transitive ē-preterit form sg. 1 dedzu and the intransitive ā-preterit form sg. 1 degu. Similar oppositions can be encountered passim outside of Modern Standard Lithuanian.

Endzelīns therefore concluded that there was a stage of Baltic at which all transitive a- and ja-verbs, that is, all transitive verbs of classes (b) - (d), had ē-preterits, and all intransitive verbs of these classes had ā-preterits. At that stage of the language, verbs which can be both transitive and intransitive would have had ē-preterits when used transitively and ā-preterits when used intransitively.

The less transparent distribution of ē- and ā-preterits in present-day Standard Lithuanian, then, is in Endzelīns's view the result of categorial generalizations, such as 'all (nonablauting) a-verbs whose root ends in ē + C have ē-preterits', a generalization which accounts for the replacement of older Baltic \*deg-a 'burned (itr.)' : \*deg-ē 'burned (itr.)' by Modern Standard Lithuanian deg-ē 'burned (tr. and itr.)'.

4.4: While Endzelīns's hypothesis is no doubt on the right track, there is evidence to believe that he overstated his case.

There are a number of verbs like bar-ti 'scold', where a transitive verb has an a-present and ē-preterit in Standard Lithuanian (bar-a : bar-ē), an a-present and ā-preterit in Lithuanian dialects (bar-a : bar-o), and a ja-present and ā-preterit in Latvian (sg. 1 baŕu : baru).

Obviously, it is quite unlikely that Proto-Baltic (or the common ancestor of East Baltic) had all three types of inflection in the same single verb, which is always transitive, and never intransitive. It is much more likely that Stang (1942:104-5) was right in assuming that the original paradigm showed a-present beside ā-preterit, a pattern preserved in some Lithuanian dialects. The ē-preterit of Standard Lithuanian can then be attributed to a tendency toward generalizing the ē-preterit to all transitive verbs. Notice however that this can only be considered a Baltic tendency, since some of the Lithuanian dialects did not parti-

cipate in this innovation, and since quite a different generalization took place in Latvian. For in that language it was the present which was remade, following a tendency (which can perhaps be observed also in some Lithuanian dialects) to generalize the ja-suffix to all transitive presents. This is, of course, not surprising. For like the preterit suffix -ē-, the present suffix \*-ja- is usually associated with transitivity. Notice, however, that also in Latvian, this is only a tendency, not a regular across-the-board phenomenon.

The evidence of verbs like barti, then, would seem to indicate that there were indeed once transitive ā-preterits corresponding to transitive a-presents.

The evidence also suggests that in many cases, original transitive ā-preterits were replaced by ē-preterits, while the corresponding a-presents remained unchanged, at least in Standard Lithuanian. That is, there is a definite possibility that the Baltic stage postulated by Endzelīns at which verbs like deg-ti had both an ē-preterit and an ā-preterit, depending on whether they were used transitively or intransitively, was in turn preceded by a stage where transitive a-verbs, just like intransitive a-verbs, only had ā-preterits. Endzelīns's stage would thus only be a way-station along the path of the replacement of original ā-preterits by ē-preterits in the (a-)verbs of class (c).

4.5: In light of this evidence, it would seem indicated to reformulate Enzelīns's hypothesis as follows:

It can be considered quite probable that originally all a-presents had ā-preterits, whether they were transitive or intransitive.

The ē-preterits of class (c) presents actually found in Standard Lithuanian and in the other Baltic dialects then would seem to owe their existence to two chronologically separate processes: (1) The replacement of \*-ā- by -ē- in the preterit of transitive a-verbs. (2) The generalization of the ē- and ā- suffixes in the class (c) verbs according to root structure and/or ablaut.

The small subclass (iv) of the Standard Lithuanian class (c) verbs would, under this hypothesis, constitute a relic class which has not (yet)

been affected by the second process.

4.6: Similarly, there is at least one piece of evidence indicating that there were originally intransitive ja-presents with intransitive ē-preterits, beside the usual transitive ja/ē-verbs.

Of the verbs of class (d), only a few have ē-preterits. In all cases, save one, this can be explained as a secondary phenomenon.

Thus, the verb tap-ti 'become' has in the standard language a present ta-m-p-a and a preterit tap-o, as expected in an inchoative-intransitive verb. However, in Prussian Lithuanian, the preterit tap-ē occurs. The explanation of this form can be found if, following Endzelīns (1910:33 with earlier literature), one considers that in the neighboring Prussian Latvian, a present tap-a without nasal infix is attested, a present which no doubt once existed also in Prussian Lithuanian. a-presents of roots ending in ā + C, however, regularly have ē-preterits in Lithuanian; cf. table 2 above. That is, the ē-preterit of Prussian Lithuanian really does not originally belong to a class (d) paradigm, but rather to a class (c.ii) paradigm.

There is only one verb which cannot be explained along the same or similar lines, namely the verb 'to die'; cf. mir-ti, mir-šta, mir-ē.

The intransitive ē-preterit of this verb would, however, find its explanation if it is assumed that originally ē-preterits corresponded to ja-presents, whether they were transitive or intransitive. For originally, the verb 'to die' should have had a ja-present, corresponding to the Proto-Indo-European ye/o-present attested in Skt. mri-ya-te, Av. mir-ye-ītē, and Lat. mor-io-r;

The transfer of this verb from the expected original ja-inflection to the sta-inflection in the present tense would, of course, be well motivated by the inchoative-intransitive meaning of the verb. As a matter of fact, this transfer may well have a parallel elsewhere, if my hunch is right that the Prussian Lithuanian (and Latvian) inflection of the verb 'to become' (pres. tap-a, pret. tap-ē) is the more original inflection, while the nasal-infix inflection of Standard Lithuanian (as well as of Standard Latvian) is the result of a transfer of the incho-

ative-intransitive verb 'to become' to the category explicitly marked for inchoativity and intransitivity.

4.7: There would, then, seem to exist sufficient justification for the hypothesis that at a very early stage in Baltic, the distribution of the ē- and ā-preterits was such that, outside of the class (a) and (d) presents which only had ā-preterits, ē-preterits corresponded to ja-presents, irrespective of their transitivity and intransitivity, and ā-preterits corresponded to a-presents, again irrespective of their transitivity and intransitivity.

4.8: It is now possible to extend Wiedemann's and Pedersen's explanation of the ē-preterits of class (a) verbs also to the ē-preterits of classes (b) and (c) which according to the hypothesis outlined in the preceding section of this paper originally corresponded only to presents characterized by the suffix \*-ja-.

The original distribution of ā- and ē-preterits (pres. \*-a- : pret. \*-ā-; pres. \*-ja- : pret. \*-ē-) postulated in section 4.7 can be rewritten as

pres. \*-ā- : pret. \*-ā-  
pres. \*-jā- : pret. \*-jā-.

That is, as already Schleicher had recognized, from the point of view of formal parallelism, it is possible to postulate that the ē-preterit originally was a jā-preterit.

The suffix of this preterit, however, just like the suffix \*-jā- of the feminine nouns discussed in sections 2.3.1-2 above, would be subject to Sievers-Edgerton's Law, yielding a suffix alternant \*-ijā- which, like the nominal \*-ijā- and like the \*-ijā- of the class (a) verbs, would contract to -ē-.

Unlike the feminines, however, the preterits in question almost invariably have heavy root syllables. That is, the Sievers-Edgerton's Law alternant \*-ijā- > -ē- must have been the predominantly occurring alternant of the suffix. It is therefore not at all surprising that it should have been generalized throughout the category.

4.9: It is thus possible to reconstruct the paradigms in table 4 as the sources for the paradigms found in classes (a), (b), and (c) of table 1 and sections 1.2.1-4.

TABLE 4

	INFINITIVE	PRESENT	PRETERIT	PRETERIT PARTICIPLE
(a)	* <u>laik-ĩ-ti</u>	* <u>laik-ā</u>	* <u>laik-i-ā</u>	* <u>laik-ĩ-us-</u>
(b)	* <u>peik-ø-ti</u>	* <u>peik-ja</u>	* <u>peik-jā</u>	* <u>peik-ø-us-</u>
(c)	* <u>deg-ø-ti</u>	* <u>deg-a</u>	* <u>deg-ā</u>	* <u>deg-ø-us-</u>
	* <u>lik-ø-ti</u>	* <u>leik-a</u>	* <u>lik-ā</u>	* <u>lik-ø-us-</u>

That is, if the discussion of this paper has been at all on the right track, all Lithuanian preterits, with the sole exception of dialectal and Old Lithuanian bi-t(i) 'was, were', can be derived from a unitary original formation characterized by the suffix \*-ā-.



## NOTES

- 1 An earlier version of this paper ('On the Lithuanian  $\bar{e}$ -preterit') was read at the Forty-Sixth Annual Meeting of the Linguistic Society of America, December 30, 1971, at St. Louis, Missouri. I am grateful to Antanas Klimas for subsequently directing my attention to Kazlauskas 1968 and Schmalstieg 1961 and 1965 and for sending me copies of (the relevant pages of) these publications. The responsibility for any errors and oversights in the present paper, of course, rests entirely with me.
- 2 Unless indicated otherwise, the examples cited throughout this paper will be taken from Standard Lithuanian. For typographical reasons,  $\bar{e}$  will here be written  $\bar{e}$ , and intonations will be marked only where relevant to the discussion.
- 3 Vaillant, Schmid, and Schmalstieg, to be sure, did not explicitly comment on the origin of  $\bar{e}_1$ . However, it can be safely assumed that if they had care to do so, they would have derived it in (essentially) the same fashion as  $\bar{e}_2$ .
- 4 Note that in subsequent publications (1961 and 1965), Schmalstieg saw fit to derive the  $\bar{e}$ -preterits of a-verbs (of the type deg-ti, deg-a, deg-ē, deg-us-) in a different fashion, namely as replacements of earlier thematic preterits of the type sg. 1 degēm, 2 degēs, 3 degē(t). In his opinion, the short thematic vowel (- $\bar{e}$ -) of these earlier forms was secondarily lengthened on the model of the long suffix vowel of the  $\bar{a}$ -preterit. The point of contact between the two types of preterits, which made the analogical influence of the  $\bar{a}$ -preterits on the  $\bar{e}$ -forms possible, consisted in his view in the fact that through shortening of long vowels before final resonant (plus consonant), both types of formations wound up with a short suffix vowel in the first singular, as well as in the third plural (if this form still existed at this time). This brought about the model:

sg. 1	<u>pirk-ǎ-m</u>	:	<u>deg-ě-m</u>
(pl. 3	<u>pirk-ǎ-nt</u>	:	<u>deg-ě-nt</u> )
(sg.) 3	<u>pirk-ǎ(-t)</u>	:	X = <u>deg-ě(-t)</u>
	etc.		etc.

This is not the place to discuss the relative merits of Schmalstieg's subsidiary hypothesis. Suffice it to point out that the subsequent discussion of this paper will show that this hypothesis is not required to account for ē-preterits like deg-ě.

<sup>5</sup> For further references to publications featuring this view, cf. Endzelīns 1923:666, Sandbach 1930:6-8, and Schmalstieg 1961:93-4.

<sup>6</sup> For the distributional (near-)complementarity of the two subvarieties of class (d) verbs, cf. for instance Stang 1966:341.

<sup>7</sup> Note that subclass (x) really is only a class of one.

<sup>8</sup> Actually, Schleicher started out with short ǎ, which in his view gets lengthened to ȳ in the infinitive.

<sup>9</sup> This suffix \*-ǎ- Schleicher in turn considered derived from earlier \*-a<sub>ja</sub>-.

<sup>10</sup> Schmidt had expressed this view in lectures.

<sup>11</sup> For Wiedemann's views on the ē-preterit of class (a) verbs, cf. section 3.2 below.

<sup>12</sup> As distinct from the apparent ja-presents of verbs like pasak-o-ja where the -ja- is preceded by a derivational suffix and where the -j- is not really part of the suffix, but is rather inserted between the derivational suffix and the present suffix -a-.

12a There are, to be sure, apparent counterexamples to the assumption that \*-iĵā- regularly contracted to -ē-, namely noun stems like draug-iĵā- 'society' (from draug-as 'friend') and verbal forms like pret. vien-iĵo (inf. vien-y-ti). However, neither of these two types of formations can or need be considered very ancient. The noun stems in question are quite evidently borrowings, ultimately going back to (Graeco-)Latin. As for the verbs, dialectal forms in -yĵo, pres. -yĵa make it likely that the forms in -iĵo, pres. -iĵa are of secondary origin; for further arguments in favor of the view that the present (and preterit) inflection of these verbs is of secondary, possibly even nonnative origin, cf. Hock 1971:560-1 with references to earlier literature. The verbs of the type vien-iĵo will consequently be disregarded in the subsequent discussion of this paper.

13 It should be noted that Sommer did not cover the verbal evidence.

14 The same conclusions concerning these two equations are reached by Bammesberger in his recent (1970), more satisfactory investigation of these words.

15 As for the vocalism of Toch. B mācer 'mother' : Lat. māter etc., it is likely that it has been influenced by that of the closely associated word for 'father', namely pācer, whose ā is the regular reflex of PIE \*ǵ. Note that no such analogical origin suggests itself for the vocalism of pokai and procer.

16 For Wiedemann's phonological derivation of the preterit participle and similar forms where \*-iĵ- occurs before u-vowel, cf. Wiedemann 1891:183.

17 Recall that the -j- in these forms is, from the synchronic point of view, merely a hiatus breaker.

- 18 Compare the synchronic analysis in the Dudas-O'Bryan contribution to this volume.
- 19 As a matter of fact, Standard Lithuanian has replaced the aberrant preterit bit(i) by the synchronically regular preterit buv-o.
- 20 Note that the Slavic ablaut difference between preterit and preterit participle found in a few verbs like aor. (= pret.) mře-tŭ 'died' : pple. mřr-ŭ furnishes additional evidence for the view that the stems of the preterit and preterit participle could originally differ in shape.
- 21 The third problem has been taken care of in the two preceding sections (3.4-5) of this paper.

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